

WHAT IS CLAIMED IS:

1. A seat brake apparatus for use in a vehicle having a seat, a brake device, and a battery compartment, wherein
5 the seat is arranged above the battery compartment and the brake device is activated when the seat is released from the weight of an operator, the apparatus comprising:

a pivot member arranged adjacent to the battery compartment to pivotally support the seat;

10 a contact plate facing towards the pivot member; and

a torsion spring for urging the pivot member away from the contact plate, wherein the torsion spring is arranged between the pivot member and the contact plate and has a first end portion that contacts the pivot member and a
15 second end portion that contacts the contact plate.

2. The seat brake apparatus according to claim 1, wherein the battery compartment has a side plate, the pivot member is pivotally connected to the side plate, the contact
20 plate is connected to the side plate, and the torsion spring urges the pivot member away from the side plate.

3. The seat brake apparatus according to claim 2, further comprising:

25 a moving mechanism for moving the contact plate relative to the side plate;

a guiding mechanism for connecting the contact plate to the side plate while guiding the movement of the contact plate relative to the side plate, wherein the moving
30 mechanism and the guiding mechanism cooperate to move the contact plate between a position at which the contact plate compresses the torsion spring and a position at which the contact plate allows the torsion spring to expand relative

to the other position.

4. The seat brake apparatus according to claim 3,
wherein the contact plate moves between a position at which
5 the second end portion of the torsion spring contacts an
upper end of the contact plate and a position at which the
first end portion and the second end portion of the torsion
spring are located near each other.

10 5. The seat brake apparatus according to claim 3,
wherein:

the moving mechanism includes a female thread member
arranged on the side plate and a position adjustment bolt
engaged with the female thread member to move the contact
15 plate along the side plate; and

the guiding mechanism includes a bolt inserted through
an elongated hole, which extends through the contact plate,
and is fastened to the side plate.

20 6. The seat brake apparatus according to claim 2,
wherein the contact plate is fastened to a surface of the
side plate that is closer to the battery compartment than
other surfaces of the side plate.

25 7. A seat brake apparatus for use in a vehicle having
an operator seat, a parking brake device, and a battery
compartment, wherein the operator seat is arranged above the
battery compartment and the parking brake device is
activated when the seat is released from the weight of an
30 operator, the apparatus comprising:

a front plate arranged adjacent to the battery
compartment;

a support arm for supporting the seat;

a pivot arm having a basal portion pivotally connected to the front plate and a distal portion connected to the support arm;

5 a contact plate connected to the front plate facing towards the pivot arm; and

a torsion spring arranged between the contact plate and the distal portion of the pivot arm and the pivot member to urge the pivot member away from the front plate when the seat is released from the weight of the operator.

10

8. The seat brake apparatus according to claim 7, wherein the torsion spring is arranged closer to the distal portion of the pivot arm than the basal portion of the pivot arm.

15

9. The seat brake apparatus according to claim 7, wherein the torsion spring has a first end portion that contacts the distal portion of the pivot arm and a second end portion that contacts the contact plate.

20

10. The seat brake apparatus according to claim 9, wherein the first end portion of the torsion spring contacts an activation bar arranged at the distal portion of the pivot arm.

25

11. The seat brake apparatus according to claim 10, wherein the torsion spring includes a coil portion formed between the first end portion and the second end portion and having an axis parallel to the activation bar.

30

12. The seat brake apparatus according to claim 7, wherein the contact plate is fastened to a surface of the front plate that is closer to the battery compartment than

other surfaces of the front plate.

13. The seat brake apparatus according to claim 7, further comprising:

5 a moving mechanism for moving the contact plate relative to the front plate.

14. An industrial vehicle having a brake device, comprising:

10 a battery compartment;

a seat arranged above the battery compartment;

a seat brake apparatus provided between the seat and the battery compartment, wherein the seat brake apparatus activates the brake device when the seat is released from
15 the weight of an operator, and the seat brake apparatus includes:

a pivot member arranged adjacent to the battery compartment to pivotally support the seat;

a contact plate facing towards the pivot member;

20 and

a torsion spring for urging the pivot member away from the contact plate, wherein the torsion spring is arranged between the pivot member and the contact plate and has a first end portion that contacts the pivot
25 member and a second end portion that contacts the contact plate.

15. The industrial vehicle according to claim 14, wherein the battery compartment has a side plate, the pivot
30 member is pivotally connected to the side plate, the contact plate is connected to the side plate, and the torsion spring urges the pivot member away from the side plate.

16. The industrial vehicle according to claim 15,
wherein the seat brake apparatus further including:

a moving mechanism for moving the contact plate
relative to the side plate;

5 a guiding mechanism for connecting the contact plate to
the side plate while guiding the movement of the contact
plate relative to the side plate, wherein the moving
mechanism and the guiding mechanism cooperate to move the
contact plate between a position at which the contact plate
10 compresses the torsion spring and a position at which the
contact plate allows the torsion spring to expand relative
to the other position.

17. The industrial vehicle according to claim 16,
15 wherein the contact plate moves between a position at which
the second end portion of the torsion spring contacts an
upper end of the contact plate and a position at which the
first end portion and the second end portion of the torsion
spring are located near each other.

20

18. The industrial vehicle according to claim 16,
wherein the moving mechanism includes a female thread member
arranged on the side plate and a position adjustment bolt
engaged with the female thread member to move the contact
25 plate along the side plate, and wherein the guiding
mechanism includes a bolt inserted through an elongated
hole, which extends through the contact plate, and is
fastened to the side plate.

30 19. The industrial vehicle according to claim 15,
wherein the contact plate is fastened to a surface of the
side plate that is closer to the battery compartment than
other surfaces of the side plate.